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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/578,453	05/26/2000	Jacques Mallet	03804.0114-02	9203

7590 11/23/2005

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EXAMINER	
WHITEMAN, BRIAN A	
ART UNIT	PAPER NUMBER
1635	

DATE MAILED: 11/23/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/578,453	MALLET ET AL.	
	Examiner	Art Unit	
	Brian Whiteman	1635	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *7/25/05, 9/12/05*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *16, 19, 22 and 24-26* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *16, 19, 22, 24-26* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Final Rejection

Claims 16, 19, 22, and 24-26 are pending.

Applicant's traversal and the amendment to claims 16, 19, 22 and 24 and the cancellation of claims 17, 18, 20, 21, and 23 in paper filed on 7/25/05 and the complete listing of claims filed on 9/12/05 is acknowledged and considered by the examiner.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 16, 19, 22 and 24-26 remain rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for (A) a recombinant virus selected from the group consisting of adenovirus, adeno-associated virus and herpes virus, wherein said recombinant virus comprises a nucleic acid selected from the group consisting of (i) a DNA comprising a binding site for p53, wherein the DNA consists of SEQ ID NO: 2; and (ii) a nucleic acid encoding an antisense RNA consisting of SEQ ID NO: 1, which inhibits expression of p53 and (B) a method of inhibiting glutamate mediated ischemic neuronal cell death in culture by administering the cells with a nucleic acid, which encodes an antisense RNA which inhibits expression of p53 wherein said antisense RNA consists of the sequence disclosed in SEQ ID NO: 1, does not reasonably provide enablement for the claimed vectors comprising a nucleic acid encoding a mutated form of p53 which antagonizes wild-type p53-mediated neuronal cell

degeneration in vitro or for a method for inhibiting toxicity using all nucleic acids encompassed by the claimed invention. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the invention commensurate in scope with these claims.

The invention encompasses inhibiting toxicity in cultured neuronal cells by delivering the claimed nucleic acids to the cells.

While determining whether a specification is enabling, one considers whether the claimed invention provides sufficient guidance to make and use the claimed invention, if not, whether an artisan would have required undue experimentation to make and use the claimed invention and whether working examples have been provided. When determining whether a specification meets the enablement requirements, some of the factors that need to be analyzed are: the breadth of the claims, the nature of the invention, the state of the prior art, the level of one of ordinary skill, the level of predictability in the art, the amount of direction provided by the inventor, the existence of working examples, and whether the quantity of any necessary experimentation to make or use the invention based on the content of the disclosure is "undue" (In re Wands, 858 F.2d 731, 737, 8 USPQ2d 1400, 1404 (Fed. Cir. 1988)).

First, the specification is not enabling for the claimed polynucleotides of claims because the specification does not teach how to make a polynucleotide that encodes a mutant of p53 that would antagonize the wild type p53 mediated neuronal cell degeneration. The specification on page 7, lines 13-21 makes a general statement, which reiterates what, is recited in instantly presented claims. On page 4, lines 17-28, the specification lists a p53Val135 mutant of p53 and that the mutant may be a negative dominant mutant of p53 consisting essentially of inactive

mutated form which competes with the wild type protein for binding to DNA. The specification, however, does not provide any guidance to make such a dominant negative mutant or any mutant of p53, what parts of the protein were to be mutated or altered in order to get a mutant that would meet the functional requirements claimed. Regarding the p53Val135, the specification does not provide any evidence whether this mutant would have antagonized the wild type mediated p53 mediated neuronal cell degeneration. While the art of record (Moberg et al Journal of Cellular Biochemistry 49:208-215, 1992 or Michalovitz et al Cell 62: 671-680, 1990) disclose that the p53Val135 is a temperature sensitive mutant of p53, which is transforming at one temperature, these arts do not teach or provide any guidance or evidence that the protein antagonizes the function of wild type p53. The prior art does not teach what mutant will be able to antagonize the neuronal cell degenerative effects of p53. As for the specification, it does not provide any evidence either that p53 caused neuronal cell degeneration and that this mutant of p53 or any other mutant of p53 could antagonize such effects of p53 on neuronal cell. It is noted that the specification in example 1 teaches that a p53 knockout mouse showed a higher mean volume of infarct compared to a control mouse (see the table on page 15). However, these results in no way indicate that p53 is responsible for neuronal cell death in the knockout mouse. While the art of record (Chopp et al. Biochemical and Biophysical Research Communications, 1992) teaches association of increased expression of p53 with ischemic parts of brain, neither the specification nor the art of record teaches that any mutant of p53 could inhibit any toxicity in neuronal cell culture. In summary, neither the art of record or the specification as filed teaches how to make and use a mutant p53 that would have a function as recited.

The specification does not teach what parts or amino acids of p53 protein could be mutated to obtain a protein that would antagonize the wild type activity for inhibiting neuronal cell death. It is recognized in the prior art that the function of a protein depends on the sequence of its amino acids in a certain pattern, conformation of the protein due to the amino acid sequence, and the functional properties of the different parts of the protein (see second paragraph in Rudinger J in Peptide Hormones. Editor Parsons JA. Pages 1-7, 1976, University Park Press, Baltimore). Rudinger further add, "The significance of particular amino acids and sequences for different aspects of biological activity can not be predicted *a priori* but must be determined from case to case by painstaking experimental study" (see conclusion on page 6). While it is known that many amino acid substitutions are generally possible in any given protein, the positions within the protein's sequence where such amino acid substitutions can be made with a reasonable expectation of success are limited. Certain positions in the sequence are critical to the protein's structure/function relationship, e.g. such as various sites or regions where the biological activity resides or regions directly involved in binding, stability, or catalysis; and in providing the correct three-dimensional spatial orientation for biologically active or binding sites, or for sites which represent other characteristics/properties of the protein. These or other regions may also be critical determinants of antigenicity of the protein of interest. These regions can tolerate only relatively conservative substitutions or no substitutions (see Bowie et al., 1990. Science, Vol. 247, pp. 1306-1310, especially p. 1306, column 2, paragraph 2; and see Ngo et al, The Protein Folding Problem and Tertiary Structure Prediction, 1994, Merzer (ed.), pages 433&492-495). Applicant has provided little or no guidance beyond the mere general statements to enable one of ordinary skill in the art to determine, without undue experimentation, the positions in the protein,

which could be mutated or altered so as to make a mutant protein that would have antagonized the neuronal cell degeneration effects of wild type p53.

With respect to claims 22 and 24-26 directed to a method of inhibiting toxicity in cultured neuronal cells using the claimed nucleic acids, the specification does not teach one skilled in the art how to practice the claimed method. The method reads on inhibiting toxicity in cultured neuronal cells, but does not recite what toxicity is being inhibited in the cells using the claimed nucleic acids. In view of a lack of a definition in the specification for what toxicity is being inhibited, the claims must be considered broad. The prior art is absent for using any of the claimed nucleic acids in a method of inhibiting toxicity in cultured neuronal cells. The applicants teach using SEQ ID NO: 1 to inhibit glutamate mediated ischemic neuronal cell death in cultured neuronal cells. In addition, the specification as filed and the prior art do not teach using nucleic acids encoding a mutated form of p53 or nucleic acid consisting of the site for binding of p53 to DNA that would have the function as claimed in the method. The applicants did not teach how to reasonably extrapolate from contemplating a genus of nucleic acids encoding a mutated form of p53, which antagonizes wild-type p53-mediated neuronal cell degeneration in vitro to inhibiting an unspecified toxicity in cultured neuronal cells using a genus of nucleic acids encoding a mutated form of p53. Furthermore, for the reasons listed above, the specification as filed does not teach the skilled artisan how to use a genus of nucleic acids encoding a mutated form of p53. Thus, to the extent the claims fail to recite distinguishing features to commensurate with the level of guidance presented, the claims are not considered enabled.

In conclusion, the specification as filed does not provide sufficient guidance for an artisan of skill to have practiced the claimed invention commensurate with the full scope of the claims and therefore, limiting the scope of the claimed invention to (A) a recombinant virus selected from the group consisting of adenovirus, adeno-associated virus and herpes virus, wherein said recombinant virus comprises a nucleic acid selected from the group consisting of (i) a DNA comprising a binding site for p53, wherein the DNA consists of SEQ ID NO: 2; and (ii) a nucleic acid encoding an antisense RNA consisting of SEQ ID NO: 1, which inhibits expression of p53 and (B) a method of inhibiting glutamate mediated ischemic neuronal cell death in culture by administering the cells with a nucleic acid, which encodes an antisense RNA which inhibits expression of p53 wherein said antisense RNA consists of the sequence disclosed in SEQ ID NO: 1 is proper.

Applicants' arguments filed 9/12/05 have been fully considered but they are not persuasive.

In response to applicant's argument that applicant has amended claims 16 and 19 to limit the virus to a nucleic acid selected from the group consisting of nucleic acid encoding the p53 Val135 mutant form of p53; nucleic acid comprising a site for binding consisting of SEQ ID NO: 2; and nucleic acid having the sequence of SEQ ID NO: 1.

Applicant's argument is not found persuasive because the argument is only directed to part of the enablement rejection and the argument does not address the enablement rejection directed to using the claimed invention for p53 mediated neuronal cell degeneration in vitro.

In response to applicant's argument that applicant has amended method claims 22-26 to recite an antisense RNA which inhibits expression of p53 consisting of SEQ ID NO: 1.

Applicant's argument is not found persuasive because the argument is only directed to part of the enablement rejection and the argument does not address the breadth of claimed method reading on inhibiting any toxicity in cultured neuronal cells. The teaching in the specification does not enable the claimed method.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later

invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claim 16 remains rejected under 35 U.S.C. 103(a) as being unpatentable over Funk et al. (Molecular and Cellular Biology, 1992) taken with Srivastava (US 6,261,834), Levrero et al. (Gene, 1991) or Kufe et al. (US 5,565,334).

The claimed invention is directed to recombinant viruses comprising nucleic acid comprising SEQ ID NO: 2, wherein recombinant viruses are selected from herpes virus, adenovirus, and adeno-associated virus. The amendment to step (b) of claim 16 does not limit the nucleic acid to only containing SEQ ID NO: 2.

At the time of the claimed invention, the essential element for insertion into recombinant viruses, nucleic acid comprising SEQ ID NO: 2, was disclosed in the prior art. Funk et al. teach a specific DNA binding site for p53 identical to that of SEQ ID NO: 2 (page 2866 and abstract) and its cloning into an expression plasmid (page 2867). However, Funk does not specifically teach a recombinant virus selected from group consisting of adenovirus, adeno-associated virus, and herpes virus comprising SEQ ID NO: 2.

However, at the time the invention was made, recombinant viruses were well known in the art as vectors for nucleic acid transfer and expression of a nucleic acid of interest in a wide range of animal cells. Srivastava teaches using a recombinant adeno associated virus comprising a heterologous gene (column 7). Levrero discloses a recombinant defective adenovirus for the purpose of harboring foreign nucleic acid *in vitro* (page 195). Kufe teaches using suitable gene delivery systems for delivering DNA to targeted cells, including liposomes, receptor-mediated

delivery systems, naked DNA, and viral vectors such as herpes virus, retroviruses, and adenoviruses, among others (columns 2-3).

Accordingly, in view of the prior art represented by Srivastava, Levrero and Kufe, one of ordinary skill in the art would have had sufficient motivation to produce recombinant viruses, in particular recombinant adenoviruses, recombinant herpes virus, and recombinant adeno associated viruses comprising SEQ ID NO: 2 with a reasonable expectation of success.

In addition, it would have been *prima facie* obvious to a person of ordinary skill in the art at the time the invention was made to combine the teaching of Smith taken with Srivastava, Levrero or Kufe, namely to produce recombinant viruses comprising nucleic acid comprising SEQ ID NO: 2, wherein recombinant viruses are selected from herpes virus, adenovirus, and adeno-associated virus. One of ordinary skill in the art would have been motivated to produce any of the recombinant viruses, as a matter of designer choice, because recombinant viruses were well known in the art for delivering DNA to a cell as taught by Kufe (column 3). Furthermore, one of ordinary skill in the art would have been motivated to use recombinant AAV instead of plasmid because AAV can transfect a diverse number of cells and AAV mediates integration into the host chromosomal DNA in a site-specific and stable manner as taught by Srivastava (column 2).

Therefore the invention as a whole would have been *prima facie* obvious to one ordinary skill in the art at the time the invention was made.

Applicant's arguments filed 11/14/05 have been fully considered but they are not persuasive.

Applicant argues that the simple fact that SEQ ID NO: 2 was disclosed by Funk does not render obvious recombinant viruses containing and expressing SEQ ID NO: 2 unless there is motivation to do so.

The argument is not found persuasive because Funk teaches cloning the nucleic acid comprising SEQ ID NO: 2 into an expression vector. One of ordinary skill in the art would have sufficient motivation to use a recombinant virus as the expression vector because the viruses were well known to one of ordinary skill in the art for delivering a nucleic acid to a cell in vitro. More specifically, one of ordinary skill in the art would have been motivated to use recombinant AAV instead of plasmid because AAV can transfect a diverse number of cells and AAV mediate integration into the host chromosomal DNA in a site-specific and stable manner as taught by Srivastava (column 2).

In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). This is the case here. The totality of the prior art teaches that one of ordinary skill in the art would have been motivated to produce a recombinant virus comprising SEQ ID NO: 2.

Claim 16 remains rejected under 35 U.S.C. 103(a) as being unpatentable over Michalovitz et al. (Cell 62: 671-680, 1990) taken with Srivastava (US 6,261,834), Levrero et al. (Gene, 1991) or Kufe et al. (US 5,565,334).

The claimed invention is directed to recombinant viruses comprising nucleic acid encoding p53Val135 mutated of p53, wherein recombinant viruses are selected from herpes virus, adenovirus, and adeno-associated virus.

At the time of the invention, Michalovitz et al. taught the transfection of rat embryo fibroblasts with an expression vector encoding p53Val135 mutant and that the mutant is a temperature sensitive mutant whose expression can be modulated by changing the temperature of the culture medium cells are grown (abstract, Figure 1, Table 1). However, Michalovitz does not specifically teach a recombinant virus selected from herpes virus, adenovirus, and adeno-associated virus comprising a nucleic acid encoding p53Val135 mutant.

However, at the time the invention was made, recombinant viruses were well known in the art as vectors for nucleic acid transfer and expression of a nucleic acid of interest in a wide range of animal cells. Srivastava teaches using a recombinant adeno associated virus comprising a heterologous gene (column 7). Levrero discloses a recombinant defective adenovirus for the purpose of harboring foreign nucleic acid *in vitro* (page 195). Kufe teaches using suitable gene delivery systems for delivering DNA (e.g., antisense) to targeted cells, including liposomes, receptor-mediated delivery systems, naked DNA, and viral vectors such as herpes virus, retroviruses, and adenoviruses, among others (columns 2-3).

Accordingly, in view of the prior art represented by Srivastava, Levrero, and Kufe, one of ordinary skill in the art would have had sufficient motivation to produce recombinant viruses, in particular recombinant adenoviruses, recombinant herpes virus, and recombinant adeno associated viruses comprising a nucleic acid encoding p53Val135 mutated form of p53 with a reasonable expectation of success.

In addition, it would have been *prima facie* obvious to a person of ordinary skill in the art at the time the invention was made to combine the teaching of Smith taken with Srivastava, Levrero or Kufe, namely to produce recombinant viruses comprising nucleic acid encoding p53Val135 mutated of p53, wherein recombinant viruses are selected from herpes virus, adenovirus, and adeno-associated virus. One of ordinary skill in the art would have been motivated to produce any of the recombinant viruses, as a matter of designer choice, because herpes virus, adenovirus and adeno-associated virus were well known in the art for delivering DNA to a cell as taught by Kufe (column 3). Furthermore, one of ordinary skill in the art would have been motivated to use recombinant AAV instead of plasmid because AAV can transfect a diverse number of cells and AAV mediate integration into the host chromosomal DNA in a site-specific and stable manner as taught by Srivastava (column 2).

Therefore the invention as a whole would have been *prima facie* obvious to one ordinary skill in the art at the time the invention was made.

Applicant's arguments filed 11/14/05 have been fully considered but they are not persuasive.

In response to applicant's argument that the simple fact that p53Val135 was disclosed by Michaloviz does not render obvious recombinant viruses that expresses p53 Val135, the argument is not found persuasive because one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). This is the case here. In view of the totality of the prior, one of ordinary skill in the art would have been motivated to produce any of the recombinant viruses, as

a matter of designer choice, because recombinant viruses were well known in the art for delivering DNA to a cell as taught by Kufe (column 3). Furthermore, one of ordinary skill in the art would have been motivated to use recombinant AAV instead of plasmid because AAV can transfect a diverse number of cells and AAV mediate integration into the host chromosomal DNA in a site-specific and stable manner as taught by Srivastava (column 2).

Response to Arguments

Applicant's arguments, see pages 2-3, filed 9/12/05, with respect to 112 first paragraph have been fully considered and are persuasive. The rejection of claims 16-26 has been withdrawn because of the cancellation of claims 17-18, 20-21 and 23 and the amendment to claims 16 19 and 23.

Applicant's arguments, see page 7, filed 9/12/05, with respect to 112 second paragraph have been fully considered and are persuasive. The rejection of claims 16-26 has been withdrawn because of the cancellation of claims 17-18, 20-21 and 23 and the amendment to claim 16 and 22.

Applicant's arguments, see page 7, filed 9/12/05, with respect to 102(e) have been fully considered and are persuasive. The rejection of claims 16, 17, and 20 has been withdrawn because of the cancellation of claims 17 and 20 and the amendment to claim 16 to recite SEQ ID NO: 1.

Applicant's arguments, see pages 7-9, filed 9/12/05, with respect to 103(a) over Smith, Roth, Srivastava, Leverero and Kufe have been fully considered and are persuasive. The

rejection of claims 16 and 19 has been withdrawn because of the amendment to claim 16 to recite SEQ ID NO: 1.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian Whiteman whose telephone number is (571) 272-0764. The examiner can normally be reached on Monday through Friday from 7:00 to 4:00 (Eastern Standard Time), with alternating Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrew Wang, acting SPE – Art Unit 1635, can be reached at (571) 272-0811.

Papers related to this application may be submitted to Group 1600 by facsimile transmission. Papers should be faxed to Group 1600 via the PTO Fax Center located in Crystal Mall 1. The faxing of such papers must conform with the notice published in the Official Gazette, 1096 OG 30 (November 15, 1989). The CM1 Fax Center number is (571) 273-8300.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to (571) 272-0547.

Patent applicants with problems or questions regarding electronic images that can be viewed in the Patent Application Information Retrieval system (PAIR) can now contact the USPTO's Patent Electronic Business Center (Patent EBC) for assistance. Representatives are available to answer your questions daily from 6 am to midnight (EST). The toll free number is (866) 217-9197. When calling please have your application serial or patent number, the type of document you are having an image problem with, the number of pages and the specific nature of the problem. The Patent Electronic Business Center will notify applicants of the resolution of the problem within 5-7 business days. Applicants can also check PAIR to confirm that the problem has been corrected. The USPTO's Patent Electronic Business Center is a complete service center supporting all patent business on the Internet. The USPTO's PAIR system provides Internet-based access to patent application status and history information. It also enables applicants to view the scanned images of their own application file folder(s) as well as general patent information available to the public.

For all other customer support, please call the USPTO Call Center (UCC) at 800-786-9199.

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